DEC 12 1960

| LOCKHEED AIRCRAFT CORP. | ENGINEERING STUDY ☐ CHANGE PROPOSAL [X] | LAC -93 |
|---|---|---|
| DATE 11-30-60 | AFFECTS: WSPO [X] | PROJECT [X] |

| NAME OF MAJOR COMPONENT | PART OR LOWEST SUBASSEMBLY | PART NO. & MODEL OR TYPE |
|---|---|---|
| $O_2$ SYSTEM | | |

TITLE OF PROPOSAL : OXYGEN SYSTEM IMPROVEMENTS

NATURE OF PROPOSAL:

SEE PAGE 2

REASON FOR PROPOSAL : to incorporate supplemental safety provisions in the ships oxygen system to reduce fire hazard without detriment to existing efficiency. Proposed improvements include:

1. Use of slow opening manual control valves in place of present automatic opening connectors and the on-off feature of the pressure reducers to eliminate high pressure surges and resulting adiabatic heating.
2. Removing the cockpit low pressure gage to prevent possible misinterpretation of indicated pressures.
3. Relocating the modified pressure reducers and improved relief valves from the cockpit to the Q-bay within a box for protection against grease and dirt. Except for the high pressure gage, only low pressure oxygen will be plumbed to the cockpit.

| | | |
|---|---|---|
| ES | ESTIMATED COST AND TIME INVOLVED : | |
| | ADDITIONAL FUNDING REQUIRED : | |
| CP | ESTIMATED COST FOR KITS OR PARTS : | See Page 3 |
| | ADDITIONAL FUNDING REQUIRED : | NONE (SP-1917) |

ITEMS AFFECTED BY PROPOSAL :

| SAFETY | MISSION EFFECTIVENESS | PERFORMANCE | OPERATING PROCEDURE | INTERCHANGEABILITY | WEIGHT OR WEIGHT & BALANCE | TOOLS & SUPPORT EQUIPMENT | MAINTENANCE PROCEDURE | SERVICE LIFE | FLIGHT MANUAL | MAINTENANCE MANUAL |
|---|---|---|---|---|---|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD

| SOURCE OF PARTS FOR KIT | AVAILABILITY 17 WEEKS AFTER APPROVAL |
|---|---|
| LAC | STATINTL |

DISPOSITION OF SPARES AFFECTED Press. Switches reusable as is: Press. Reg. reworkable: Lo-Press. Oxygen Gage & Automatic Opening Cylinder W[illegible] p.e.

| INITIATED BY : | APPROVED : WSPO |
|---|---|
| LAC | PROJECT |



SP-E-1A

NATURE OF PROPOSAL:

1. Modify all aircraft (except 388/721 and 394/954)* as follows:

   a. Cockpit - Remove all oxygen plumbing and system components except the high pressure gage and the indicator lights in the L. H. side instrument panel. Replace the present Oxygen Console with a new Console Assembly (Lo-pressure only) which includes the two existing pressure switches, and two new slow-opening needle valves for controlling the "primary" and "secondary" low pressure systems. (See Figure 1.)

   b. Q-Bay - Install Box Assembly (dirt and grease shield) which includes new improved relief valves, and reworked pressure reducers.

      NOTE: Existing pressure reducers will be reworked by removing the "on-off" handle, adding metal diaphragms and metal-to-metal seats. (Valve bodies will be unpainted aluminum on future production). The new relief valves will have a flow rating compatible with system capacity and will be vented overboard.

   c. Oxygen Cylinders - Remove the existing automatic opening cylinder valves and replace with slow opening needle valves and pressure gages on each cylinder.

   d. Modify plumbing to connect relocated system elements. Special fittings will be utilized to reduce to a minimum, the number of high and low pressure line connections. Revised installation procedure will require application of anti-sabotage paint to certify the security of each plumbing connection.

NATURE OF PROPOSAL: (cont)

2. Prepare and issue a Service Bulletin

3. Fabricate appropriate aircraft provisioning kits.

*4. This proposal also includes modification of two place aircraft (388/721 and 394/954). Description of changes involved will be outlined by revision to this Change Proposal and issuance of a separate Service Bulletin.

Estimated Cost For Kits or Parts:

| | | |
|---|---|---|
| Cost. No. 1 - 9 Kits | | Total Cost |
| Cost. No. 2 - 29 Kits | | Total Cost |

STATINTL

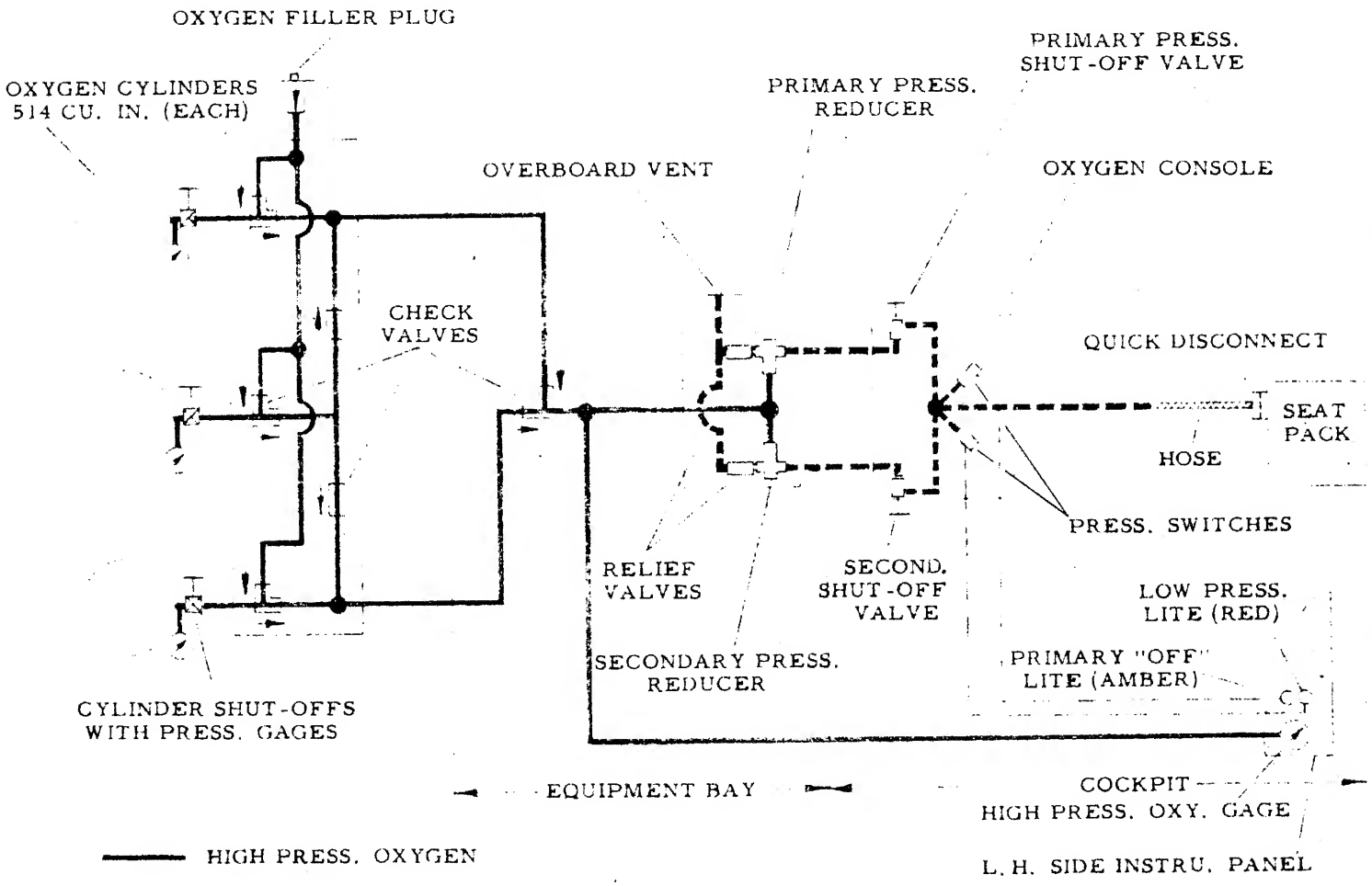




FIGURE 1.